What is claimed is:

1. A method of modeling an inferior olive neuron comprising:

generating an oscillation having an amplitude and a frequency;

generating a first spike when the oscillation exceeds a first threshold; and

generating a second spike when the oscillation exceeds a second threshold.

2. The method of claim 1, comprising:

preserving a phase of the oscillation following spike generation.

3. The method of claim 1, wherein the first and second thresholds are functions of external stimuli.

4. The method of claim 1, wherein an output device is controlled in accordance with a phase of the oscillation.

5. A processing unit comprising:

an oscillation generator generating an oscillation having an amplitude and a frequency;

a first spike generator generating a first spike when the oscillation exceeds a first threshold; and

a second spike generator generating a second spike when the oscillation exceeds a second threshold.

6. A control system comprising a plurality of processing units, each processing unit being in accordance with claim 5.

7. The control system of claim 6 comprising:

a plurality of coupling elements, each coupling element coupling a pair of processing units and providing a variable degree of coupling based on an output of at least one of the pair of processing units.

8. A control system comprising:

a first processing unit, the first processing unit mimicking an inferior olive neuron;

a second processing unit, the second processing unit mimicking an inferior olive neuron; and

a coupling element coupling the first and second processing units, the coupling element providing a variable degree of coupling based on an output of at least one of the first and second processing units.

9. A robotic system comprising a control system in accordance with claim 8.

10. A control system comprising:

a plurality of processing units, each of the processing units mimicking an inferior olive neuron; and

a plurality of coupling elements coupling adjacent processing units, each of the coupling elements providing a variable degree of coupling based on an output of at least one of the plurality of processing units,

wherein the plurality of processing units includes at least one cluster of processing units having substantially synchronized activity.

11. The control system of claim 10, wherein the degree of coupling between processing units within the at least one cluster is greater than the degree of coupling between said processing units within the at least one cluster and other processing units.